

Low-pass Filter

$R := 10000 \cdot \Omega$ resistance

$C := 0.01 \cdot \mu\text{F}$ capacitance

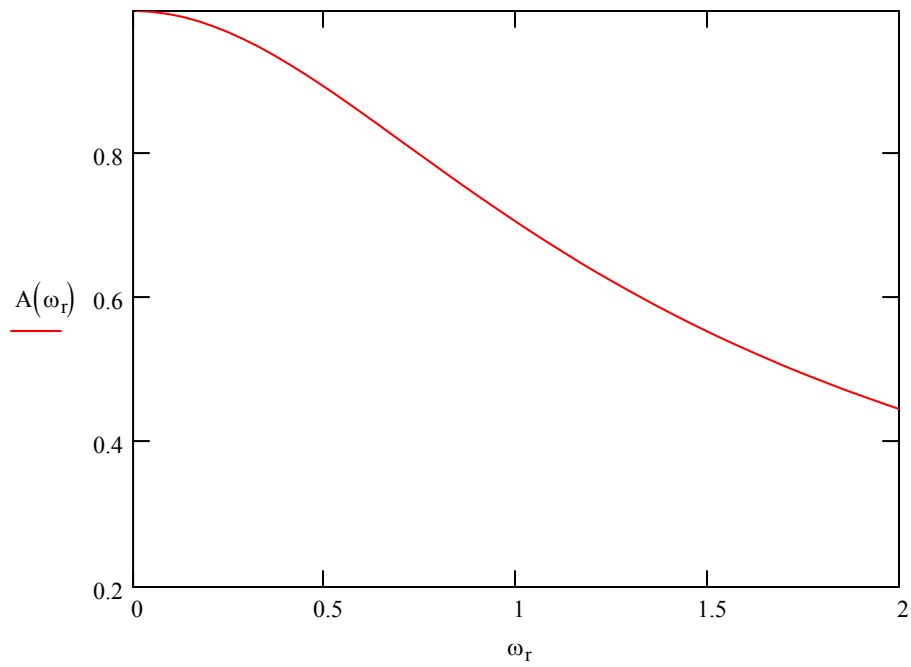
$\omega_c := \frac{1}{R \cdot C}$ $\omega_c = 1 \times 10^4 \frac{\text{rad}}{\text{sec}}$ cutoff frequency

$\omega_r = \frac{\omega}{\omega_c}$ frequency ratio

$A(\omega_r) := \frac{1}{\sqrt{(1 + \omega_r^2)}}$ amplitude ratio as a function of frequency ratio

$A(1) = 0.707$ amplitude ratio at the cutoff frequency

$\omega_r := 0.01, 0.05 \dots 2.5$



$$\phi(\omega_r) := -\text{atan}(\omega_r)$$

phase angle as a function
of frequency ratio

